**Perceptions of Academic Abilities and Mental Well-Being Among Higher Education Students with Attention-Deficit/Hyperactivity Disorder:**

**A Participatory Research Project to Create an Inclusive Educational Model**

**Project Description**

This project’s goal is building an inclusive educational model for higher education students with attention-deficit/hyperactivity disorder (ADHD) to support their academic self-efficacy and mental well-being. The project will employ participatory research, whereby higher education students with ADHD take an active role in formulating the research goals and constructing interviews for the study population.

**Central Research Questions**

1. To what extent do existing teaching methods, assessment methods, and the environment (virtual or physical) contribute to higher education students with ADHD’s academic self-efficacy and mental well-being ?
2. To what extent do existing institutional supports and individual accommodations contribute to higher education students with ADHD’s academic self-efficacy and mental well-being?
3. What is the optimal working model for promoting higher education students with ADHD’s inclusion, from universal and individual perspectives?

**Project Significance**

ADHD is the most common disability among students in higher education, and these students represent the largest population needing higher education examination and learning accommodations (Baeyens, 2021). This research project focuses on identifying barriers and opportunities experienced by students with ADHD throughout their academic programs. Using this information, the project will formulate an inclusive educational model offering equal opportunities for students with ADHD and reducing disparities, thus enabling institutions of higher education to provide these students with the necessary support to develop academic self-efficacy and mental well-being during their studies.

**Background**

ADHD is one of the most common and complex childhood disorders (American Psychiatric Association, 2019). Between 2% and 8% of all higher education students have been diagnosed with ADHD (Baeyens, 2021). Current statistics report a lifetime prevalence among 8% to 12% of the general population (Antshel, 2018; Biederman & Faraone, 2005; Polanczyk et al., 2014). Studies show that at least some ADHD symptoms persist into adulthood, causing disruptions across many areas of functioning. However, reliable empirical data for this is still lacking (Schubert & Lehmkuhl, 2017).

Students with ADHD face multiple challenges in high school, often experiencing low self-efficacy regarding their ability to succeed in higher education. While significantly more students with ADHD continue to higher education in recent years (Anastopoulos, 2015), a lower percentage continue to post-secondary education compared to their neuronormative peers (DuPaul, 2017).

Research shows that students with ADHD tend to have lower GPAs and higher rates of failing, withdrawing from courses, repeating classes, and dropping out (DuPaul, 2017). Only 9.1% these students graduate from college, unlike 60.6% of the general population (Anastopoulos, 2015).

Some explanations for these differences involve the difficulty students with ADHD have staying focused and paying attention, and their challenges in executive functioning, including problem- solving, time management, participating in goal-oriented activities, and self-regulation (Gray et al., 2016; Van der Oord et al., 2018). These can impair educational attainment, occupational success, interpersonal relationships, and mental and physical health, and even lead to financial and legal difficulties (Anastopoulos, 2015; Nigg, 2013). Various comorbidities, including learning disabilities (LD), emotional challenges, substance abuse, and other neurodiverse conditions (Nelson & Gregg, 2012) may compound ADHD-related difficulties. Students with ADHD attending college may face heavy academic loads but lack adequate academic skills. Psychosocial challenges, particularly low academic self-efficacy (Mana et al., 2020), may affect their emotional well-being (Krauss & Schellenberg, 2022).

The COVID-19 pandemic, creating constantly changing learning environments, presented additional challenges for students with ADHD. Sibley et al. (2021) found that during the pandemic, these students reported social isolation, difficulties with online learning, and motivational difficulties.

Despite increasing numbers of students with ADHD in higher education, most discourse on integrating differently abled learners focuses on K–12. Success in higher education is still widely perceived as being dependent on neuronormative capabilities (Abegglen, 2021). Nonetheless, institutions of higher education have begun recognizing the importance of supporting people with disabilities’ integration into academia and society, enhancing support for individuals’ needs (Varunek, 2020).

Students with a documented diagnosis of ADHD or other disabilities may be eligible to receive accommodations for examinations and sometimes for learning (Toutain, 2019). *Exam accommodations* include: taking exams in separate, quiet rooms; extended time for taking exams; breaks during exams; and having someone to read exam to them. *Learning accommodations* include: designated seating in class (close to the professor or in a quieter area); access to recordings of lectures; support on specific topics; and deadline extensions (Baeyens, 2021; Sedgwick, 2018; Weis et al., 2021).

Although the *practice* of academic integration refers to individuals with special needs being supported in the general population, the *concept* provides a holistic view of the learning environment, curricula, and teaching-learning processes, including adapting these to students according to their abilities (Abegglen, 2021). A primary integration concept model is Universal Design in Learning (UDL), a framework promoting teaching-learning processes appropriate for a broad spectrum of students (Center for Applied Special Technology, 2019). Based on the concept of *inclusion*—distinct from *integration*— UDL regards disability as just one characteristic of human diversity, alongside gender, race, nationality, age, socioeconomic status, and personal learning style differences (Ross, 2019).

The UDL model identifies three principles governing general adaptations of teaching, learning, and evaluation processes: multiple means of engagement, representation, and expression. It also emphasizes the need to include students with disabilities equitably, without labeling (Ok & Roa, 2019). The integration approach recognizes only students with documented disabilities as eligible for additional time on exams; but an inclusive approach, like UDL, stipulates that exams be designed to allow *all* students to work at their own pace with sufficient time to finish (Delaney & Hata, 2020).

UDL also recognizes educational staff’s key contribution to students’ learning experiences (Ross, 2019), including redesigning curriculum, pedagogy, and assessment methods to meet the needs of all students, and offering students individualized support to promote academic success (Finkelstein et al., 2021).

Although the research literature already includes considerable information on barriers experienced by students with ADHD, robust, comprehensive data on the relationship between these barriers and current responses is lacking. Furthermore, there is little information on teaching-learning processes for students with ADHD from the students’ perspective. This study, designed in collaboration with students with ADHD who will join the research team, aims to present a unified, inclusive model mapping the barriers students with ADHD face and the opportunities that can empower them with academic self-efficacy and mental well-being, addressing the accommodations, services, and teaching-learning processes necessary for an optimal learning experience.

**Research Methods**

The proposed participatory research mixed-methods study combines quantitative and qualitative research tools. In participatory research, investigators work collaboratively with people affected by the studied subject, who respond collaboratively to the results (Andersson, 2018; Hall, Gaved, & Sargent, 2021). We have partnered with three ADHD students, third-year higher education students receiving assistance from the relevant campus support services; two female health profession students, and one male business student. In a focus group held with these students, they strongly suggested examining students with ADHD’s academic self-efficacy and mental well-being, noting the importance of addressing the research questions with mixed methods research, including collecting quantitative and qualitative data, and the need for accessibility to audio versions of written questionnaires to accommodate these students’ typical learning needs and identified topics for interviews (qualitative research).

**Study Participants**

The study population will include undergraduate students documented with ADHD. Participants, a convenience sample of 60 undergraduate students diagnosed with ADHD, ranging from 18- to 50-years-old, study in a faculty at Israel’s private Ono Academic College, are eligible for academic accommodations due to ADHD, and receive assistance from various campus support services. Participants will be selected according to gender, age, cultural affiliation, study year, and study faculty.

**Research Tools**

**Quantitative.** A questionnaire on academic self-efficacy and personal well-being developed for use in research on integrating populations with disabilities in higher education will be used to collect quantitative data. The questionnaire’s two parts include a section on self-efficacy (11 items) and a section on mental well-being (6 items). Respondents will be asked to rate each item on a scale of 1–5 (5 = “very much”; 1 = “not at all”). The self-report questionnaires will be distributed to participants via the Google Forms online platform. Internal reliability among items was tested using 62 questionnaires completed by higher education students with ADHD, and was found to be high (academic self-efficacy α = .822; mental well-being α = .820). The principal investigators and an undergraduate student with ADHD provided expert validation of the questionnaire.

**Qualitative.** We will conduct in-depth semi-structured interviews with students with ADHD to explore students’ strengths and challenges and their impact on the students’ studying and living coping abilities. The interviews will expand on the data collected from the questionnaires, providing a perspective on past and present learning experiences and address the accommodations and supports provided to students and how these contribute to their academic self-efficacy and mental well-being. The interviews will elicit retrospective perspectives on best practices and suggestions for improving and promoting inclusion in higher education.

The focus group collaborated with a language teacher with ADHD and the principal investigators to design interview questions. Following data collection, another focus group will examine the research findings and exchange ideas on formulating best practices for integrating students with ADHD into higher education.

**Research Process**

In the research’s first phase, the principals met with three students with ADHD, who helped formulate the research goals, questions, and procedure. This study was approved by the college’s Institutional Ethics Committee (202105onoEx2022).

In the second stage, we will collect quantitative and qualitative data simultaneously. Personal meetings will be coordinated with participants, who will receive an explanation of the study and sign an informed consent form. They will then complete the questionnaires anonymously, and we will conduct, record and transcribe the interviews, omitting all participant-identifying details from the transcripts. The raw data will be saved, protected with a password, and stored by the principal investigators.

The third stage involves conducting data analysis together with the students with ADHD who were partners in designing the research and who will serve as research assistants.

In the fourth stage, we will reconvene a focus group with the students who participated in the previous stages to discuss an optimal working model and its feasibility. These meetings will be recorded and transcribed, with participants’ identifying details remaining confidential.

The fifth phase consists of a pilot project implementing the proposed working model together with supporting bodies at the college.

In the final phase, the focus group will reconvene to provide feedback on the pilot project and collaboratively formulate the final working model.

The following summarizes the research stages:

**Phase 1**

* Research design (defining the research goals and research questions) in collaboration with students with ADHD (completed)

**Phase 2**

* Collecting qualitative data—semi-structured, in-depth interviews with students with ADHD
* Collecting quantitative data—questionnaires completed by students with ADHD

**Phase 3**

* Focus group analysis of preliminary findings

**Phase 4**

* Presenting final findings to focus group and exchanging ideas for developing a working model
* Formulating the finalized working model

**Phase 5**

* Preliminary pilot project for implementing the recommended working model

**Phase 6**

* Eliciting focus group feedback on pilot project

**Data Analysis Procedures**

An inductive-comparative method will be used to analyze the thematic content of the personal interviews’ collected data. Units of meaning will be identified in the texts before being coded into categories. A lateral subanalysis will be then performed to identify meanings and patterns common among the interviewees and their unique perceptions (Bengtsson, 2016). The focus group will determine criteria for mapping best practices. Suggestions participants offer during interviews will form the basis for formulating the recommended working model.

To analyze the quantitative data, we will use descriptive statistics to assess the accommodations and supports students receive and to describe their perceptions of their levels of academic self-efficacy and mental well-being. Linear regression tests will be used to identify factors predicting academic self-efficacy and mental well-being.